File   2:INSPEC 1898-2007/Feb W4
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        (c) 2007 The HW Wilson Co.
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        (c) 2007 INIST/CNRS
File 256:TecInfoSource 82-2007/Oct
        (c) 2007 Info.Sources Inc
File 266:FEDRIP 2007/Feb
        Comp & dist by NTIS, Intl Copyright All Rights Res
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
        (c) 2006 The Thomson Corp
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
        (c) 2002 The Gale Group
File   56:Computer and Information Systems Abstracts 1966-2007/Feb
        (c) 2007 CSA.
File   60:ANTE: Abstracts in New Tech & Engineer 1966-2007/Feb
        (c) 2007 CSA.

Set   Items   Description
S1   2341   UPC OR (UNIF??? OR UNIVERSAL)()PARAL?EL()C
S2   106   S1(5N)(COMPIL???? OR TRANSLAT???? OR PARS???? OR GENERAT??-
                ?? OR BUILD???? OR BUILT OR CONSTRUCT? OR CONVERT?)
S3   9   S1(5N)(CONVERS? OR RECOMPIL? OR INTERPRET? OR ASSEMBL?)
S4   29   S1(5N)(TRANSLAT? OR CHANG???? OR EVOLV? OR EVOLUT? OR REFO-
                RMAT? OR RE()FORMAT???? OR RECOD???? OR ITERAT? OR PERMUT?)
S5   27   S1(5N)(CONFIGUR? OR RECONFIGUR? OR ADJUST? OR READJUST? OR
                ADAPT??? OR ADAPTATION? OR INTERPOLAT? OR TRANSFORM?)
S6   9   S1(5N)(TRANSMUT? OR MAP??? OR MAPP???)
S7   1   S2:S6 AND INTERMEDIAT?
S8   5   S1 AND INTERMEDIAT?
S9   5   S7 OR S8
S10   4   S9 NOT (BARCOD? OR BAR()COD???? OR PRODUCT()COD??)
S11   4   RD (unique items)
S12   159   S2:S6
S13   152   S12 NOT (BARCOD? OR BAR()COD???? OR PRODUCT()COD??)
S14   50   S13/2004:2007
S15   102   S13 NOT S14
S16   77   RD (unique items)

 16/7/1   (Item 1 from file: 2)
DIALOG(R)File   2:INSPEC
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09055558   INSPEC Abstract Number: C2004-09-6150N-131
 Title: Porting, monitoring and tuning UPC on NUMA architectures
  Author(s): Mohamed, A.S.
  Author Affiliation: Dept. of Electr. & Comput. Eng., George Washington
Univ., DC, USA

Conference Title: Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'2003)
Part vol.4   p.1518-25 vol.4
   Editor(s): Arabnia, H.R.; Mun, Y.
   Publisher: CSREA Press, Las Vegas, NV, USA
   Publication Date: 2003 Country of Publication: USA   4 vol. 1963 pp.
   Material Identity Number: XX-2003-03405
   Conference Title: International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'2003)
   Conference Date: 23-26 June 2003   Conference Location: Las Vegas, NV, USA
   Language: English   Document Type: Conference Paper (PA)
   Treatment: Practical (P)

   Abstract: We report on our experience in porting the NAS NPB benchmark using the recently developed GCC-SGI UPC compiler on the origin O3800 NUMA machine. In fact, the SGI NUMA environment has provided new opportunities for UPC. For example, by coupling Unix P-threads with standard UPC threads one is able to code solutions to problems using pipelining, divide-and-conquer, and speculative parallelization styles. This task-level parallelism was never before possible in UPC that relies mainly on distributed shared memory fine-grain data parallelism. This has led to having multithreads per processor and provided further opportunities for optimization through load balancing. The SGI CC-NUMA environment also provided memory consistency optimizations to mask the latency of remote accesses, convert aggregate accesses into more efficient bulk operations, and cache data locally. UPC allows programmers to specify memory accesses with "relaxed" consistency semantics. These explicit consistency "hints" are exploited by the CC-NUMA environment very effectively to hide latency and reduce coherence overheads further by, for example, allowing two or more processors to modify their local copies of shared data concurrently and merging modifications at synchronization points. This characteristic alleviates the effect of false sharing. Yet another opportunity that was made possible by the spectrum of performance analysis and profiler tools within the SGI NUMA environment is the development of new monitoring and tuning strategy that aims at improving the efficiency of parallel UPC applications. We are able to project the physically monitored parameters back to the data structures and high-level program constructs within the UPC source code. This increases a programmer's ability to effectively understand, develop, and optimize UPC programs; enabling an exact analysis of a program's data and code layouts. Using this visualized information, programmers are able to detect communication, data/threads layouts, and I/O bottlenecks and further optimize UPC programs with a better data and threads layouts potentially resulting in significant performance improvements. (8 Refs)
   Subfile: C

 16/7/2   (Item 2 from file: 2)

08891455   INSPEC Abstract Number: C2004-04-6150G-036
   Title: Performance monitoring and evaluation of a UPC implementation on a NUMA architecture
   Author(s): Cantonnet, F.; Yao, Y.; Annareddy, S.; Mohamed, A.S.; El-Ghazawi, T.A.
   Author Affiliation: Dept. of Electr. & Comput. Eng., George Washington Univ., DC, USA
   Conference Title: Proceedings International Parallel and Distributed Processing Symposium   p.8 pp.
   Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA

   Publication Date: 2003 Country of Publication: USA   CD-ROM pp.

ISBN: 0 7695 1926 1   Material Identity Number: XX-2003-00374
Conference Title: International Parallel and Distributed Processing
Symposium (IPDPS 2003)
Conference Sponsor: IEEE Comput. Soc Tech. Committee on Parallel Process.
; IEEE Comput. Soc. Tech. Committee on Comput. Archit.; IEEE Comput. Soc.
Tech. Committee on Distrib. Process.; ACM SIGARCH
Conference Date: 22-26 April 2003   Conference Location: Nice, France
Language: English   Document Type: Conference Paper (PA)
Treatment: Applications (A); Practical (P)

Abstract: UPC is an explicit parallel extension of ANSI C, which has been
gaining rising attention from vendors and users. In this paper, we consider
the low-level monitoring and experimental performance evaluation of a new
implementation of the UPC compiler on the SGI Origin family of NUMA
architectures. These systems offer many opportunities for the
high-performance implantation of UPC They also offer, due to their many
hardware monitoring counters, the opportunity for low-level performance
measurements to guide compiler implementations. Early, UPC compilers
have the challenge of meeting the syntax and semantics requirements of the
language. As a result, such compilers tend to focus on correctness rather
than on performance. In this paper, we report on the performance of
selected applications and kernels under this new compiler. The measurements
were designed to help shed some light on the next steps that should be
taken by UPC compiler developers to harness the full performance and
usability potential of UPC under these architectures. (13 Refs)
Subfile: C
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16/7/7   (Item 7 from file: 2)
DIALOG(R)File 2:INSPEC

08075308   INSPEC Abstract Number: C2001-12-6150C-010
Title: UPC benchmarking issues
Author(s): El-Ghazawi, T.; Chauvin, S.
Author Affiliation: Sch. of Comput. Sci., George Mason Univ., Fairfax,
VA, USA
Conference Title: Proceedings International Conference on Parallel
Processing   p.365-72
Editor(s): Ni, L.M.; Valero, M.
Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA
Publication Date: 2001   Country of Publication: USA   xix+590 pp.
ISBN: 0 7695 1258 5   Material Identity Number: XX-2001-02008
U.S. Copyright Clearance Center Code: 0190 3918/2001/$10.00
Conference Title: Proceedings International Conference on Parallel
Processing
Conference Sponsor: Int. Assoc. Comput. & Commun
Conference Date: 3-7 Sept. 2001   Conference Location: Valencia, Spain
Language: English   Document Type: Conference Paper (PA)
Treatment: Applications (A); Practical (P)

Abstract: UPC, or Unified Parallel C, is a parallel extension of ANSI C.
UPC is developed around the distributed shared-memory programming model
with constructs that can allow programmers to exploit memory locality, by
placing data close to the threads that manipulate them in order to minimize
remote accesses. Under the UPC memory sharing model, each thread owns a
private memory and has a logical association (affinity) with a partition of
the shared memory. This paper discusses an early release of UPC Bench, a
benchmark designed to reveal UPC compilers performance weaknesses to
uncover opportunities for compiler optimizations. The experimental
results from UPC Bench over the Compaq AlphaServer SC show that UPC Bench
is capable of discovering such compiler performance problems. Further, it
shows that if such performance pitfalls are avoided through compiler
optimizations, distributed shared memory programming paradigms can result
in high-performance, while the ease of programming is enjoyed. (11 Refs)

16/7/33   (Item 1 from file: 8)
DIALOG(R)File   8:Ei Compendex(R)
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09776905   E.I. No: EIP04138082533
   Title: Low-level monitoring and high-level tuning of UPC on CC-NUMA
architectures
   Author: Mohamed, Ahmed S.
   Corporate Source: Department of Electrical Engineering George Washington
University, Washington, DC 20052, United States
   Conference Title: Proceedings of the IASTED International Conference on
Modelling, Sumulation and Optimization
   Conference   Location: Banff,   Alta..,   Canada   Conference   Date:
20030702-20030704
   Sponsor: IASTED, Technical Committee on Modelling Simulation
   E.I. Conference No.: 62482
   Source: Proceedings of the IASTED International Conference on Modelling,
Simulation and Optimatization 2003.
   Publication Year: 2003
   ISBN: 0889863725
   Language: English
   Document Type: CA; (Conference Article)   Treatment: T; (Theoretical); X;
(Experimental)
   Journal Announcement: 0403W5
   Abstract: We experiment with various techniques of monitoring and tuning
UPC programs while porting NAS NPB benchmark using the recently developed
GCC-SGI UPC compiler on the Origin O3800 NUMA machine. The performance
of the NAS NPB on the SGI NUMA environment is compared to previous NAS NPB
statistics on a Compaq multiprocessor. In fact, the SGI NUMA environment
has provided new opportunities for UPC. For example, the spectrum of
performance analysis and profiler tools within the SGI NUMA environment
made the development of new monitoring and tuning strategies that aim at
improving the efficiency of parallel UPC applications possible. Our
objective is to be able to project the physically monitored parameters
back to the data structures and high-level program constructs within the
source code. This increases a programmer's ability to effectively
understand, develop, and optimize programs; enabling an exact analysis of
a program's data and code layouts. Using this visualized information,
programmers are able to further optimize UPC programs with a better data
and threads layouts potentially resulting in significant performance
improvements. Furthermore, the SGI CC-NUMA environment provided memory
consistency optimizations to mask the latency of remote accesses, convert
aggregate accesses into more efficient bulk operations, and cache data
locally. UPC allows programmers to specify memory accesses with "relaxed"
consistency semantics. These explicit consistency "hints" are exploited by
the CC-NUMA environment very effectively to hide latency and reduce
coherence overheads further by allowing, for example, two or more
processors to modify their local copies of shared data concurrently and
merging modifications at synchronization operations. This characteristic
alleviates the effect of false sharing. 4 Refs.

16/7/34   (Item 2 from file: 8)
DIALOG(R)File   8:Ei Compendex(R)
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09738114   E.I. No: EIP04098039961
   Title: A Performance Analysis of the Berkeley UPC   Compiler
   Author: Chen, Wei-Yu; .Bonachea, Dan; Duell, Jason; Husbands, Parry;
Iancu, Costin; Yelick, Katherine

Corporate Source: Computer Science Division University of California, Berkeley, CA, United States
Conference Title: 2003 International Conference on Supercomputing
Conference Location: San Francisco, CA, United States   Conference Date: 20030623-20030626
Sponsor: ACM/SIGARCH; Intel Corporation; Florida State University
E.I. Conference No.: 62275
Source: Proceedings of the International Conference on Supercomputing 2003. p 63-73
Publication Year: 2003
Language: English
Document Type: CA; (Conference Article)   Treatment: T; (Theoretical)
Journal Announcement: 0403W2

Abstract: Unified Parallel C (UPC) is a parallel language that uses a Single Program Multiple Data (SPMD) model of parallelism within a global address space. The global address space is used to simplify programming, especially on applications with irregular data structures that lead to fine-grained sharing between threads. Recent results have shown that the performance of UPC using a commercial compiler is comparable to that of MPI left bracket 7 right bracket . In this paper we describe a portable open source compiler for UPC . Our goal is to achieve a similar performance while enabling easy porting of the compiler and runtime, and also provide a framework that allows for extensive optimizations. We identify some of the challenges in compiling UPC and use a combination of micro-benchmarks and application kernels to show that our compiler has low overhead for basic operations on shared data and is competitive, and sometimes faster than, the commercial HP compiler. We also investigate several communication optimizations, and show significant benefits by hand-optimizing the generated code. 22 Refs.
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File 696:DIALOG Telecom. Newsletters 1995-2007/Mar 07
        (c) 2007 Dialog
File  15:ABI/Inform(R) 1971-2007/Mar 08
        (c) 2007 ProQuest Info&Learning
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        (c) 2007 The HW Wilson Co.
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        (c) 1999 PR Newswire Association Inc
File 613:PR Newswire 1999-2007/Mar 08
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        (c) 2007 ProQuest Info&Learning
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        (c) 1999 Business Wire
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        (c) 2007 Business Wire.
File 369:New Scientist 1994-2007/Nov W2
        (c) 2007 Reed Business Information Ltd.
File 370:Science 1996-1999/Jul W3
        (c) 1999 AAAS
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Set	Items	Description
S1	8227	UPC OR (UNIF??? OR UNIVERSAL)()PARAL?EL()C
S2	173	S1(5N)(COMPIL???? OR TRANSLAT???? OR PARS???? OR GENERAT??-?? OR BUILD???? OR BUILT OR CONSTRUCT? OR CONVERT?)
S3	27	S1(5N)(CONVERS? OR RECOMPIL? OR INTERPRET? OR ASSEMBL?)
S4	123	S1(5N)(TRANSLAT? OR CHANG???? OR EVOLV? OR EVOLUT? OR REFO-RMAT? OR RE()FORMAT???? OR RECOD???? OR ITERAT? OR PERMUT?)
S5	37	S1(5N)(CONFIGUR? OR RECONFIGUR? OR ADJUST? OR READJUST? OR ADAPT??? OR ADAPTATION? OR INTERPOLAT? OR TRANSFORM?)
S6	9	S1(5N)(TRANSMUT? OR MAP??? OR MAPP???)
S7	0	S2:S6(25N)INTERMEDIAT?
S8	1	S2:S6(S)INTERMEDIAT?
S9	6	S1(S)INTERMEDIAT?
S10	6	RD (unique items)
S11	256	S2:S6 NOT (BARCOD? OR BAR()COD???? OR PRODUCT()COD??)
S12	243	S11 NOT (PROTOCOL()CARD? ? OR USAGE()PARAMET? OR ATM OR TR-AFFIC)
S13	242	S12 NOT PAINT
S14	60	S13/2004:2007
S15	182	S13 NOT (S14 OR S10)
S16	168	RD (unique items)
S17	158	S16 NOT SCANN???
S18	127	S17 NOT EURO? ?

?

? t18/3,k/115,117

18/3,K/115   (Item 1 from file: 610)

00842542 20030128028B3862 (USE FORMAT 7 FOR FULLTEXT)
Etnus Announces TotalView 6.0, With Support for New Compilers, Platforms,
and Expanded C++ Support; Feature List Includes Much-Anticipated Linux
Compiler, IBM Regatta, and Sun 64-bit support
Business Wire
Tuesday, January 28, 2003 08:00 EST
JOURNAL CODE: BW LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
DOCUMENT TYPE: NEWSWIRE
WORD COUNT: 538

...the Intel C/C++ 7.0 for Linux and Intel Fortran 7.0 for Linux compilers
.
Version 6 also supports the Unified Parallel C (UPC) programming
model, which
has been adopted over the last year by a consortium from...

18/3,K/117   (Item 3 from file: 610)

00732429 20020618169B0044 (USE FORMAT 7 FOR FULLTEXT)
HP Announces Industry's First UPC Compiler for Commercial Use
Business Wire
Tuesday, June 18, 2002 08:59 EDT
JOURNAL CODE: BW LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
DOCUMENT TYPE: NEWSWIRE
WORD COUNT: 591

HP Announces Industry's First UPC Compiler for Commercial Use

TEXT:
HP (NYSE:HPQ) today.
announced the release of its newly developed UPC compiler for Tru64
UNIX, the
first commercial release of a UPC compiler in the industry and a
technological
breakthrough for the high-performance technical computing market.

The HP UPC Compiler V2.0 (formerly the Compaq UPC Compiler) is a
fully
complete implementation of the Unified Parallel C language as well as
highly...

...Professor Katherine Yelick, University of
California at Berkeley and Lawrence-Berkeley National Lab. "The HP
compiler is
the most sophisticated UPC compiler currently available. It implements
the
full UPC specification and provides application-level access to the...

...parallel applications and excellent
performance across shared memory, distributed memory and hybrid systems.

The HP UPC Compiler V2.0 is currently running at 16 large sites on
three
continents, including Lawrence Livermore...

...in Australia, as well as at two large
intelligence agencies and several universities.

The HP UPC   Compiler V2.0 is now available and priced from US$3,750 to
US$80,000...

...number of CPUs required to execute the run-time
code.

More details about the HP UPC   Compiler are available at
http://www.tru64unix.compaq.com/upc/.

   About HP

HP is a leading...

? t18/9/117

HP Announces Industry's First UPC   Compiler for Commercial Use
Business Wire

TEXT:
PALO ALTO, Calif., Jun 18, 2002 (BUSINESS WIRE) - HP (NYSE:HPQ) today
announced the release of its newly developed UPC   compiler for Tru64
UNIX, the
first commercial release of a UPC   compiler in the industry and a
technological
breakthrough for the high-performance technical computing market.

The HP UPC   Compiler V2.0 (formerly the Compaq UPC   Compiler) is a
fully
complete implementation of the Unified Parallel C language as well as
highly
scalable and extremely high performing.
Developed under a joint research agreement with the U.S. National Security
Agency, it is the only implementation of UPC with independent
documentation,
run-time validation and tuning parameters and it supports all features in
the
official UPC language specification.

"UPC is a new parallel variant of the C language that holds great promise
as a
means of simplifying the task of coding parallel programs while ensuring
efficient execution," said Professor Katherine Yelick, University of
California at Berkeley and Lawrence-Berkeley National Lab. "The HP
compiler is
the most sophisticated UPC   compiler currently available. It implements
the
full UPC specification and provides application-level access to the
low-latency Quadrics interconnect. It also performs caching and
pre-fetching
optimizations that allow programs written in a simple style to obtain high
performance."

UPC provides a simple shared memory model for parallel programming,
allowing
data to be shared or distributed among a number of communicating
processors.
This model promises easier coding of parallel applications and excellent
performance across shared memory, distributed memory and hybrid systems.

The HP UPC   Compiler V2.0 is currently running at 16 large sites on
three
continents, including Lawrence Livermore National Laboratory in California,
the Pittsburgh Supercomputing Center in Pennsylvania and the Victorian
Partnership for Advanced Computing in Australia, as well as at two large
intelligence agencies and several universities.

The HP UPC   Compiler V2.0 is now available and priced from US$3,750 to
US$80,000 depending on the number of CPUs required to execute the run-time

code.

More details about the HP UPC   Compiler are available at
http://www.tru64unix.compaq.com/upc/.

     About HP
HP is a leading global provider of products, technologies, solutions and
services to consumers and businesses. The company's offerings span IT
infrastructure, personal computing and access devices, global services and
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The
merged company had combined revenue of approximately $81.7 billion in
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2001 and operations in more than 160 countries. More information about HP
is
available at http://www.hp.com.

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that
the market for the sale of certain products and services may not develop as
expected; that development of these products and services may not proceed
as
planned; and other risks that are described from time to time in HP's
Securities and Exchange Commission reports, including but not limited to
HP's
annual report on Form 10-K, as amended on January 30, 2002, for the fiscal
year ended October 31, 2001, HP's quarterly report on Form 10-Q for the
quarter ended January 31, 2002 (as filed with the SEC on March 12, 2002)
and
subsequently filed reports. If any of these risks or uncertainties
materializes or any of these assumptions proves incorrect, HP's results
could
differ materially from HP's expectations in these statements. HP assumes no
obligation and does not intend to update these forward-looking statements.

CONTACT: HP
                  Dick Calandrella, 508/467-2261
                  dick.calandrella@hp.com

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   AND EXCHANGE COMMISSION
GEOGRAPHIC NAMES: AMERICAS; CALIFORNIA; NORTH AMERICA; USA
EVENT NAMES: CORPORATE FINANCIAL DATA; REGULATION